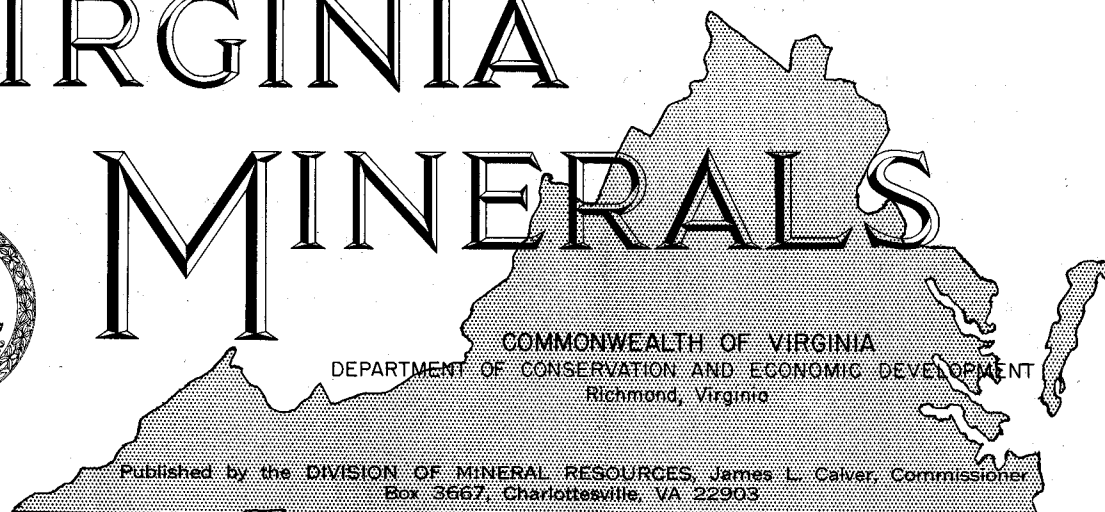


VIRGINIA



MINERALS



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No. 2

OIL AND GAS DEVELOPMENT IN VIRGINIA DURING 1966

David M. Young¹

Gas production in Virginia during 1966 was about the same as in the previous year, with a total of 4,249,340 Mcf produced as compared to 4,210,086 Mcf for 1965. Buchanan County produced 1,070,745 Mcf; Dickenson County, 446,949 Mcf; and Tazewell County, 2,731,646 Mcf. Oil production from Lee County declined to 1,073 barrels. Of this total, 5 wells in the Rose Hill field accounted for 737 barrels and the Bledsoe No. 1, discovery well of the Ben Hur field, produced 336 barrels. Drilling activity declined somewhat. One well, started in 1965, was completed in Buchanan County; one well was drilled in Tazewell County; and two wells were started late in 1966 in the Ben Hur field in Lee County. Total footage drilled amounted to about 12,000 feet.

A total of 1,070,745 Mcf of gas was produced in Buchanan County as follows: Ashland Oil and Refining Company, 785,446 Mcf; P & S Oil and Gas Corporation, 58,023 Mcf; Cabot Corporation, 65,552 Mcf; and United Fuel Gas Company, 161,724 Mcf. One well was completed by the Consolidation Coal Company at a total depth of 5215 feet through the Berea sandstone at 4854 to 4882 feet. The Ravencliff sand, at 2175 to 2180 feet, had an openflow of 202 Mcf. No gas was reported from the Berea and the well was not fractured; it is currently shut in. Location is ap-

proximately 17,000 feet west of longitude 81°55'W. and 4540 feet south of latitude 37°10'N. in the Richlands 15-minute quadrangle. The location was made in an attempt to secure an extension of the Berea production in Tazewell County.

In 1966, the Clinchfield Coal Company, Division of The Pittston Company, produced 446,949 Mcf of gas from 41 wells in Dickenson County during 10 months of the year. There was no delivery during November and December because of a prolonged strike in eastern Kentucky where the gas is marketed. There was no drilling activity in Dickenson County during the year.

In Lee County, oil production from the Rose Hill field amounted to 737 barrels from 5 wells during three-quarters of the year. The discovery well in the Ben Hur field, the Bledsoe No. 1, drilled in 1963 by J. W. Miloncus, produced 336 barrels during the last quarter of the year. Thus, a total of 1073 barrels of oil was produced during 1966, a decrease of more than 2500 barrels from the 3617 barrels produced in 1965.

Both the Rose Hill and Ben Hur fields lie near the crest of the Powell Valley anticline where fensters have been formed by erosion of portions of the Cumberland overthrust block to expose the younger rocks that had been overridden. The Ben Hur field is within the Sulphur Springs fenster where rocks of Silurian and Devonian age have been exposed. Chert residuum from the Copper Ridge dolomite is preserved in klippe-like features

^{1/} Chief Geologist, Clinchfield Coal Company, Division of The Pittston Company, Dante, Virginia. Oliver W. Lineberg, State Oil and Gas Inspector, furnished production data.

near the center of the fenster. The Bledsoe well was completed at a depth of 2207 feet in the Trenton limestone with oil shows at 1606, 1639, and 2189 feet. It was acidized and completed as a small producer.

Late in the year two wells were located by David Law in the Ben Hur field near the Bledsoe discovery well. The Dewey M. Livesay No. 1 is located approximately 2900 feet west of longitude 83°05'W. and 300 feet south of latitude 36°42'30" N. The James B. Graham No. 1 is approximately 4000 feet east of longitude 83°05'W. and 6400 feet south of latitude 36°45'N. Both are located on the Ben Hur 7.5-minute quadrangle. In January 1967, the Livesay well was drilling at 800 feet and the Graham well at 600 feet (see News Note), and locations were being surveyed for

three additional wells in the Ben Hur area of Lee County.

In Tazewell County the Consolidation Coal Company produced 1,329,905 Mcf of gas and production by the United Fuel Gas Company was 1,401,741 Mcf, for a total of 2,731,646 Mcf of gas from 13 wells in the Berea sandstone. Only one well, the Youngstown Mines Corporation 1A, drilled by John Capito, was completed during the year. This well is located approximately 6300 feet west of longitude 81°45'W. and 28,200 feet south of latitude 37°15'N. in the Richlands 15-minute quadrangle. It was drilled to a total depth of 5882 feet and penetrated the Berea sandstone from 5780 to 5827 feet. The well initially tested at the rate of 200 Mcf of gas from the Berea and was fractured in November 1966. Early in January 1967 the well was still being tested.

Table 1.—Well completions in Virginia during 1966.

<i>Operator</i>	<i>Lease</i>	<i>Well No.</i>	<i>Total Depth</i>	<i>Initial Openflow (Mcf)</i>	<i>Final Openflow (Mcf)</i>	<i>Status</i>
Buchanan County Consolidation Coal Company	McRae	2	5215	202	202	Shut in
Tazewell County John Capito	Youngstown Mines Corp.	1A	5882	200	—	Testing after fracture
	✕	✕	✕	✕	✕	

NEWS NOTE

On March 22, 1967, the Graham No. 1 well located in the Ben Hur field encountered a large flow of gas while drilling at 2235 feet, reportedly in the Trenton limestone. The gas ignited and a serious fire ensued at the rig. After the initial blowout, oil followed the gas into the hole, evidently snuffing out the fire, and the 7-inch hole filled with 1500 feet of oil, estimated to be approximately 75 barrels. The operator subsequently continued drilling through the Trenton and prepared to erect tanks. The Livesay No. 1 well had developed drilling difficulties and was standing at a depth of about 800 feet.

The discovery well in the Ben Hur field, the Bledsoe No. 1, drilled by J. W. Miloncus, had a fillup of about 1000 feet of oil in a 7-inch hole from the Trenton, and is currently producing about 8 barrels of oil per day. A second well by Miloncus, the Browning Wynn No. 1, was abandoned as a dry hole at a total depth of 2207 feet, reportedly in the Trenton. The Miloncus interest in the Ben Hur field has been acquired by David Law.

NEW PUBLICATIONS

Replacement copies of Mineral Resources Report 6, ANALYSES OF CLAY, SHALE, AND RELATED MATERIALS — SOUTHWESTERN COUNTIES, by Stanley S. Johnson, Marion V. Denny, and D. C. LeVan have been printed. This publication was originally released in 1965. Any person who purchased the 1965 report and has not already received a revised copy may obtain one by returning the original publication to: Virginia Division of Mineral Resources, Box 3667, Charlottesville, VA 22903. Copies of Mineral Resources Report 6 are available at a cost of \$1.25 each.

A revised LIST OF PUBLICATIONS is now available from the Division of Mineral Resources. This revision contains an up-to-date listing of the Division's publications and maps, an index to these publications, and selected other publications on Virginia geology published outside the Division. This new list is available free of charge.

PLEISTOCENE GASTROPODA OF VIRGINIA¹Horace G. Richards²

This is a companion report to that on the Pleistocene Pelecypoda of Virginia published in the August 1966 issue (vol. 12, no. 3) of *Virginia Minerals*. As in the previous publication, the records are taken from the writer's field work in Virginia plus the extensive collections made by Robert Q. Oaks and Nicholas Coch in connection with a study of the Pleistocene of southeastern Virginia. Complete copies of these projects (PhD theses) are on file at Yale University, New Haven, Conn.

Following is a list of Pleistocene Gastropoda that are known to occur in Virginia. The distribution during Pleistocene time and also the present distribution are given for each species.

Epitonium rupicolum (Kurtz)(*Scalaria lineata* Say)

Plate 1, Figures 1, 2

Pleistocene distribution: New Jersey to South Carolina

Present distribution: Massachusetts to Texas

Melenella intermedia (Cantraine)

Plate 1, Figure 3

Pleistocene distribution: New Jersey to North Carolina

Present distribution: Vineyard Sound (Massachusetts) to Georgia

Polinices duplicata (Say)

Plate 1, Figure 4

Pleistocene distribution: Massachusetts to Florida

Present distribution: Massachusetts to Gulf of Mexico

Polinices heros (Say)

Plate 1, Figure 5

Pleistocene distribution: Quebec to South Carolina

Present distribution: Gulf of St. Lawrence to North Carolina

Crucibulum striatum (Say)

Plate 1, Figures 7, 8

Pleistocene distribution: Massachusetts to Virginia

Present distribution: Nova Scotia to Florida
Keys*Crepidula fornicata* (Linné)

Plate 1, Figure 9

Pleistocene distribution: Massachusetts to Florida

Present distribution: Prince Edward Island to Texas and West Indies

Crepidula plana (Say)

Plate 1, Figure 6

Pleistocene distribution: Massachusetts to Florida

Present distribution: Prince Edward Island to Texas

Crepidula convexa (Say)

Plate 1, Figure 10

Pleistocene distribution: Massachusetts to Florida

Present distribution: Nova Scotia to Texas

Crepidula aculeata (Gmelin)

Plate 1, Figure 11

Pleistocene distribution: South Carolina to Florida

Present distribution: North Carolina to Texas and West Indies

Littorina irrorata (Say)

Plate 1, Figure 12

Pleistocene distribution: Connecticut to Florida

Present distribution: Massachusetts (?) to Northern Florida and Texas

Vermicularia spirata (Philippi)

Plate 1, Figures 13, 14

Pleistocene distribution: Virginia to Florida

Present distribution: Massachusetts (?) to West Indies and Texas

Caecum cooperi (S. Smith)

Not figured

Pleistocene distribution: Virginia

Present distribution: South of Cape Cod to northern Florida

Vermetus nigricans (Dall)

Plate 1, Figure 15

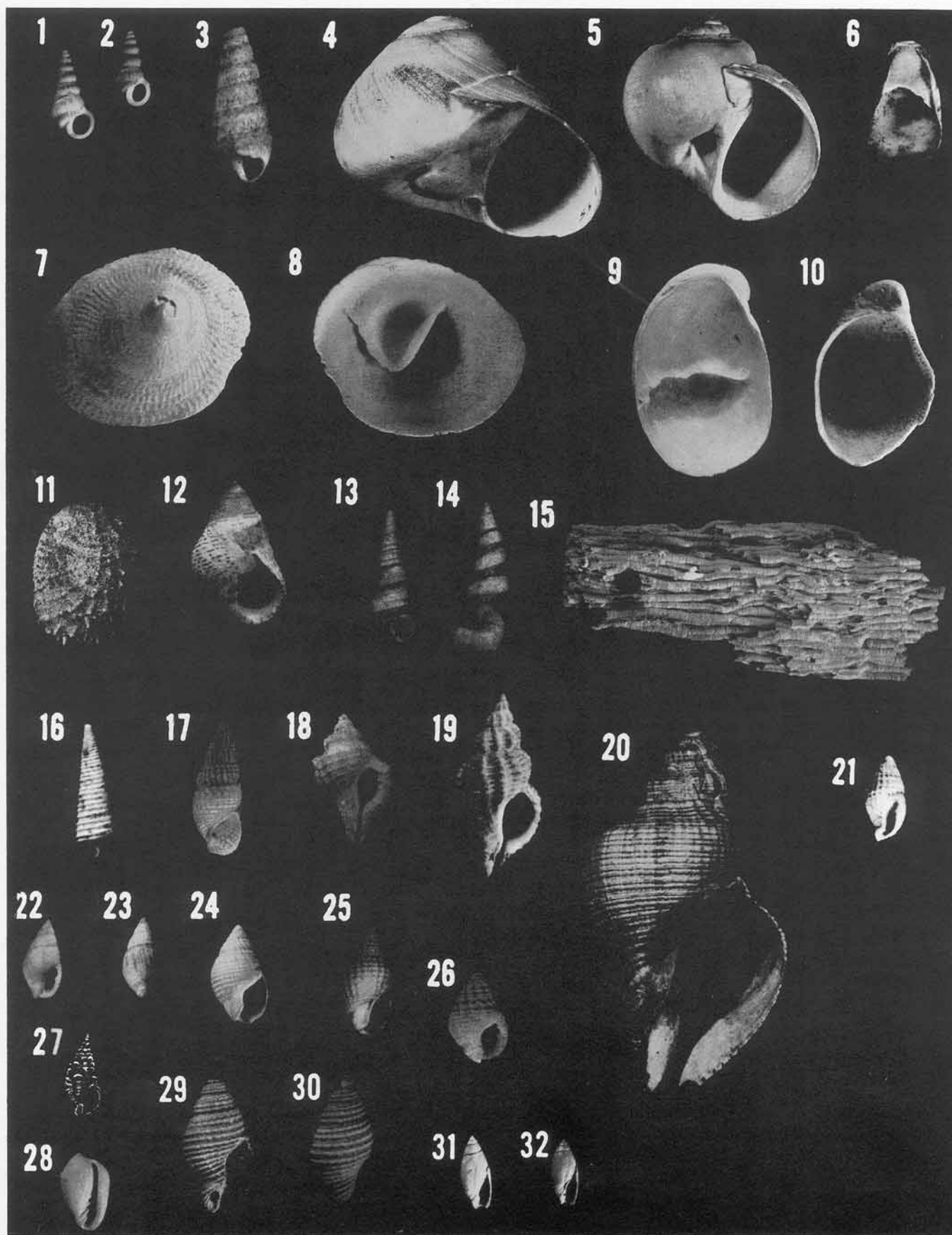
Pleistocene distribution: Virginia

Present distribution: Florida

^{1/} Aided by Grant NONR (G) 00027 (66) and previous grants from the Geography Branch of the Office of Naval Research.

^{2/} The Academy of Natural Sciences of Philadelphia and University of Pennsylvania, Philadelphia, Pennsylvania.

PLATE 1



Seila adamsii (Lea)

Plate 1, Figure 16

Pleistocene distribution: New Jersey to Florida

Present distribution: Massachusetts to Texas and West Indies

Bittium alternatum (Say)

Plate 1, Figure 17

Pleistocene distribution: Virginia

Present distribution: Gulf of St. Lawrence to Virginia

Eupleura caudata (Say)

Plate 1, Figure 18

Pleistocene distribution: Massachusetts to Florida

Present distribution: Massachusetts to Florida

Urosalpinx cinerea (Say)

Plate 1, Figure 19

Pleistocene distribution: Massachusetts to Florida

Present distribution: Nova Scotia to southern Florida

Thais haemastoma floridana (Conrad)

Plate 1, Figure 20

Pleistocene distribution: New Jersey to Florida

Present distribution: North Carolina to Texas and Caribbean

Columbella obesa (Adams)

Plate 1, Figure 21

Pleistocene distribution: North Carolina to Florida

Present distribution: North Carolina to Florida and West Indies

Columbella avara (Say)

Plate 1, Figure 22

Pleistocene distribution: New Jersey to Florida

Present distribution: Massachusetts to Florida

Columbella lunata (Say)

Plate 1, Figure 23

Pleistocene distribution: Massachusetts to Florida

Present distribution: Prince Edward Island to Gulf of Mexico

Nassarius obsoletus (Say)

Plate 1, Figure 24

Pleistocene distribution: Massachusetts to Florida

Present distribution: Gulf of St. Lawrence to Florida

Nassarius trivittatus (Say)

Plate 1, Figure 25

Pleistocene distribution: Massachusetts to Florida

Present distribution: Gulf of St. Lawrence to Florida

Nassarius vibex (Say)

Plate 1, Figure 26

Pleistocene distribution: New York to Florida

Present distribution: Massachusetts (?) to Gulf of Mexico and West Indies

EXPLANATION OF PLATE 1

Figure

- 1, 2 *Epitonium rupicolum* (Kurtz)
 3 *Melenella intermedia* (Cantraine)
 4 *Polinices duplicata* (Say)
 5 *Polinices heros* (Say)
 6 *Crepidula plana* (Say)
 7, 8 *Crucibulum striatum* (Say)
 9 *Crepidula fornicata* (Linné)
 10 *Crepidula convexa* (Say)
 11 *Crepidula aculeata* (Gmelin)
 12 *Littorina irrorata* (Say)
 13, 14 *Vermicularia spirata* (Philippi)
 15 *Vermetus nigricans* (Dall)
 16 *Seila adamsii* (Lea)
 17 *Bittium alternatum* (Say)

Figure

- 18 *Eupleura caudata* (Say)
 19 *Urosalpinx cinerea* (Say)
 20 *Thais haemastoma floridana* (Conrad)
 21 *Columbella obesa* (Adams)
 22 *Columbella avara* (Say) X 2
 23 *Columbella lunata* (Say) X 2
 24 *Nassarius obsoletus* (Say)
 25 *Nassarius trivittatus* (Say)
 26 *Nassarius vibex* (Say)
 27 *Nassarius acutus* (Say)
 28 *Prunum roscidum* (Redfield)
 29, 30 *Cantharus cancellaria* (Conrad)
 31, 32 *Olivella mutica* (Say)

All specimens figured are Pleistocene and natural size unless otherwise indicated.

Nassarius acutus (Say)

Plate 1, Figure 27

Pleistocene distribution: New Jersey to Florida

Present distribution: North Carolina to Texas

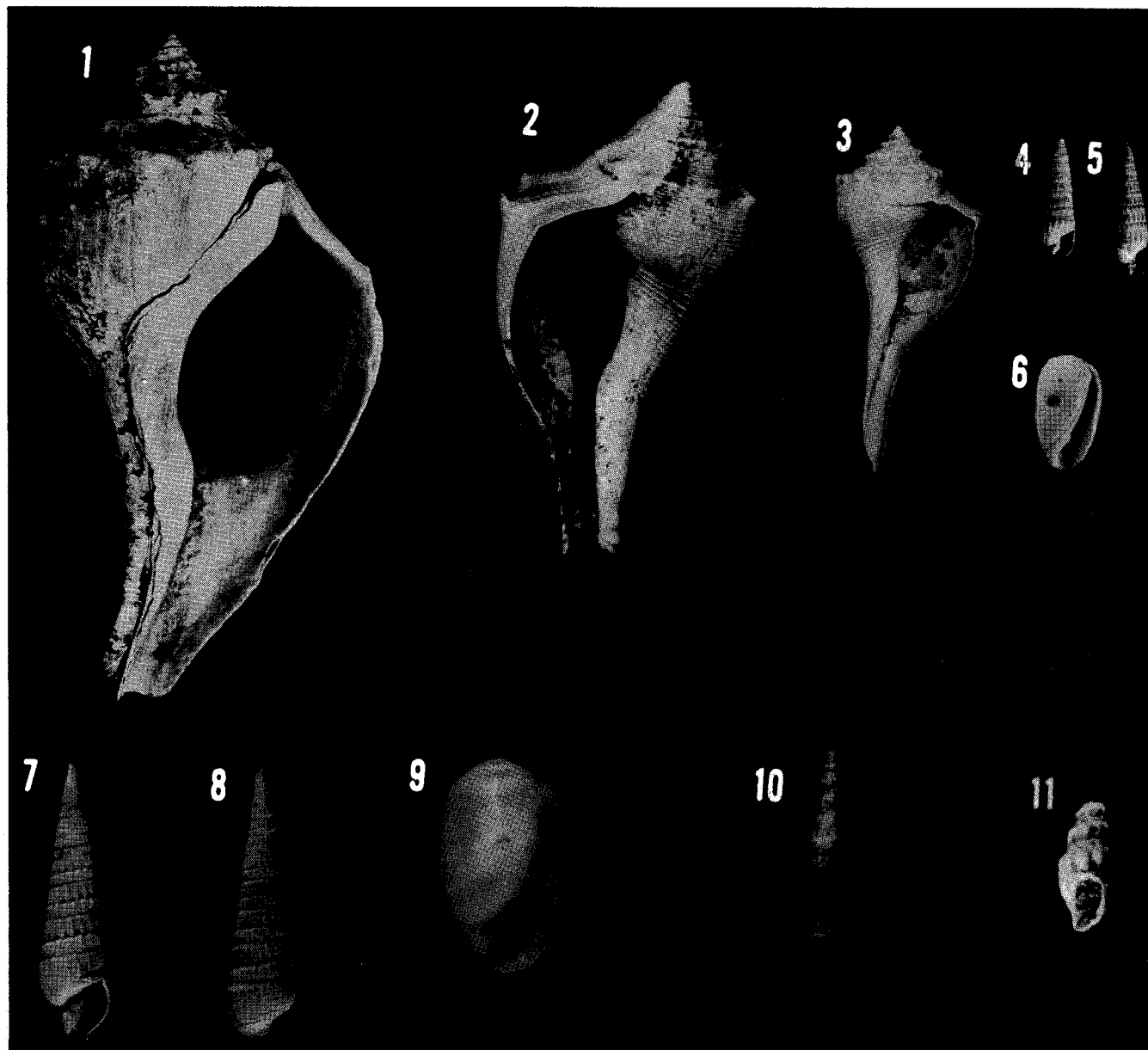
Cantharus cancellaria (Conrad)

Plate 1, Figures 29, 30

Pleistocene distribution: New Jersey to Florida

Present distribution: South Carolina to Yucatan

PLATE 2



EXPLANATION OF PLATE 2

Figure

- 1 *Busycon carica* (Gmelin)
- 2 *Busycon contrarium* (Conrad)
- 3 *Busycon canaliculatum* (Linné)
- 4, 5 *Terebra dislocata* (Say)

Figure

- 6 *Retusa canaliculata* (Say)
- 7, 8 *Terebra dislocata* (Say)
- 9 *Retusa pertenuis* (Mighels)
- 10 *Terebra concava* (Say)
- 11 *Mangelia cerina* (Kurtz and Stimpson)

All specimens figured are Pleistocene and natural size unless otherwise indicated.

Busycon canaliculatum (Linné)

Plate 2, Figure 3

Pleistocene distribution: New York to Florida

Present distribution: Massachusetts to Florida

Busycon carica (Gmelin)

Plate 2, Figure 1

Pleistocene distribution: New Jersey to Florida

Present distribution: Massachusetts to Florida

Busycon contrarium (Conrad)

Plate 2, Figure 2

Pleistocene distribution: New Jersey to South Carolina

Present distribution: North Carolina to Florida

Prunum roscidum (Redfield)

Plate 1, Figure 28

Pleistocene distribution: Virginia to Florida

Present distribution: New Jersey to Florida

Olivella nutica (Say)

Plate 1, Figures 31, 32

Pleistocene distribution: New Jersey to Florida

Present distribution: North Carolina to Texas and West Indies

Terebra concava (Say)

Plate 2, Figure 10

Pleistocene distribution: New Jersey to Florida

Present distribution: North Carolina to Florida

Terebra dislocata (Say)

Plate 2, Figures 4, 5, 7, 8

Pleistocene distribution: New Jersey to Florida

Present distribution: Virginia to Florida and Texas

Mangelia cerina (Kurtz and Stimpson)

Plate 2, Figure 11

Pleistocene distribution: New Jersey to Florida

Present distribution: Massachusetts to Florida

Retusa canaliculata (Say)

Plate 2, Figure 6

Pleistocene distribution: New York to Florida

Present distribution: Gulf of St. Lawrence to Texas and West Indies

Retusa pertenuis (Mighels)

Plate 2, Figure 9

Pleistocene distribution: Quebec to Virginia

Present distribution: Greenland to Florida

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GEOGRAPHIC NAMES IN VIRGINIA

It is the purpose of the United States Board on Geographic Names to render formal decisions on new names, proposed changes in names, and names that are in conflict which are submitted for decision by individuals, private organizations, or government agencies. Communications about these names should be addressed to: J. O. Kilmarlin, Executive Secretary, Domestic Geographic Names, U.S. Geological Survey, Washington, DC 20242.

An asterisk (*) preceding a name represents a change in an earlier decision; a dagger (†) preceding a name indicates modification of the text of a former decision.

Allens Island: island, in the York River 1.8 miles south-southeast of Achilles; Gloucester County, Virginia; 37°15'15"N., 76°25'38"W. Not: Allans Island, Ellen Island.

Coleman Falls: village, on the James River, 13 miles southeast of Glasgow and 16 miles south of Buena Vista; Bedford County, Virginia; 37°30'00"N., 79°18'10"W. Not: Colemans Falls.

Dockman Swamp: stream, 2.5 miles long, heads at 37°22'53"N., 77°01'07"W., flows north-northwest to Collins Run 1.5 miles southeast of Providence Forge; Charles City County, Virginia; 37°24'40"N., 77°02'05"W. Not: Tonyham Swamp.

Graves Landing: site, on the Chickahominy River 1.3 miles north of Holdcroft; Charles City County, Virginia; 37°23'06"N., 76°56'13"W. Not: Craves Landing.

Laneaza: settlement, 2.5 miles east-northeast of Walkers and 4.5 miles north-northeast of Holdcroft; New Kent County, Virginia; 37°25'25"N., 76°54'05"W.

Rubush Run: stream, 1 mile long, heads at 37°44'25"N., 79°24'23"W., flows northeast to the Maury River 2.5 miles northwest of Buena Vista; Rockbridge County, Virginia; 37°45'06"N., 79°23'32"W. Not: Robush Run.

Sunken Meadow Creek: stream, 3.5 miles long, head at 37°11'55"N., 76°59'10"W., flows east-northeast, through Sunken Meadow Pond, to

the James River 2 miles east of Claremont; Surry County, Virginia; 37°13'12"N., 76°56'04"W. Not: Sunken Marsh Creek.

**Swanns Point*: point of land, in the James River opposite the site of Jamestown; Surry County, Virginia; 37°12'22"N., 76°48'05"W. Not: Swann Point (former decision), Swan Point, Swan's Point, Swans Point.

Tonyham Swamp: stream, 2.5 miles long, heads at 37°22'55"N., 77°00'25"W., flows north-northeast to the Chickahominy River 1 mile south-southwest of Windsor Shades; Charles City County, Virginia; 37°24'52"N., 76°59'33"W. Not: Dockman Swamp.

Walkers: community, 2.5 miles east-southeast of Windsor Shades and 3.5 miles north of Holdcroft; New Kent County, Virginia; 37°24'55"N., 76°56'25"W. Not: Walker.

Watts Point: point of land, in the Chickahominy River 2 miles northeast of Holdcroft; New Kent County, Virginia; 37°22'22"N., 76°54'15"W. Not: Big Marsh Point.

Virginia Division of Mineral Resources

Box 3667

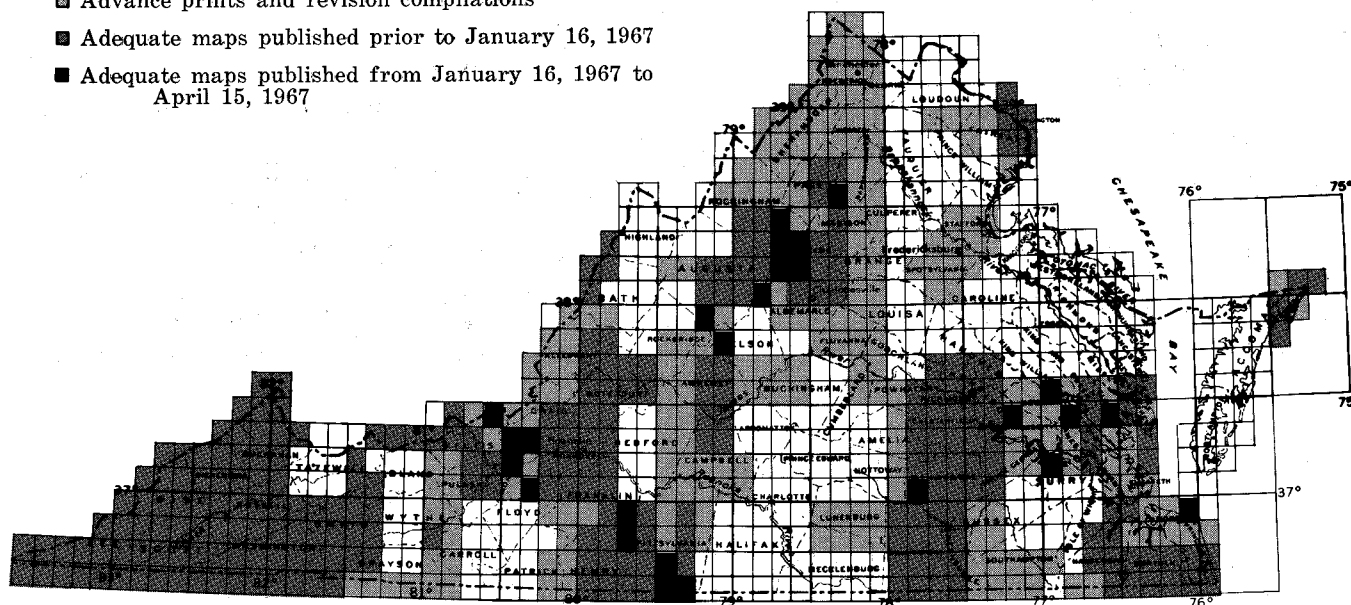
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7.5-Minute Quadrangle Topographic Maps

- Advance prints and revision compilations
- Adequate maps published prior to January 16, 1967
- Adequate maps published from January 16, 1967 to April 15, 1967



Maps published between January 16, 1967, and April 15, 1967:

Blacksburg
Browns Cove
Cape Henry
Claremont
Danville
Darvills
Elkton West

Free Union
Gloucester
Interior
Mc Donalds Mill
Mc Gaheysville
Massies Mill
Mountain Valley

Mt. Herman
New Kent
Newport
Old Rag Mtn.
Penhook
Pilot
Ringgold

Roxbury
Swift Run Gap
Toano
Vesuvius
Waynesboro East

ADVANCE PRINTS AND REVISION COMPILATIONS

Advance prints and copies of revision compilations are available at 50 cents each from the U. S. Geological Survey, Topographic Division, 1109 N. Highland St., Arlington, VA 22210.

PUBLISHED MAPS

State index is available free. Published maps are available at 50 cents each from the Virginia Division of Mineral Resources, Box 3667, Charlottesville, VA 22903.